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BOTANICAL GAZETTE

JUNE 1909

CONTRIBUTIONS FROM THE ROCKY MOUNTAIN
HERBARIUM. VIII

AVEN NELSON

In 1905 Mr. LESLIE N. GOODDING again made some collections in the deserts of southern Nevada and adjacent Arizona. These plants, like those of his collections of 1902 and 1903, were deposited with the Rocky Mountain Herbarium at the University of Wyoming, to be named and distributed. Interesting as the earlier collections proved, these which came from even more inaccessible places and from regions which represent the extremes of aridity and heat are equally so. I submit herewith descriptions of the new species and notes upon others that are but little known or that seem to need generic differentiation.

PLANTAE GOODDINGIANAE

Calochortus comosus, n. sp.—Glabrous: bulb small, $8-12\text{ mm}$ in diameter, covered with dead sheathing flaky scales which also invest the base of stem: stem very slender, slightly flexuous, $1-2\text{ dm}$ high, 1 (rarely 2)-flowered: leaves narrowly linear: sepals lance-linear, as long as the petals: petals pale lavender or lilac, with darker lines, but not marked with spots or bands of other colors, broadly triangular-ovate, $18-25\text{ mm}$ long; the apex subtruncate, slightly undulate-dentate; the gland large, ovate, inordinately densely long-bearded with yellow hairs which are glandular-thickened toward the apex; similar hairs are scattered over all the lower half of the petal: anthers white, acute, $7-8\text{ mm}$ long; the filament as long: capsule acute-angled.

Las Vegas, Nevada, in limestone washes, May 8, 1905, *Goodding* 2323.

Probably most nearly allied to *C. flexuosus* Wats., from which it is readily distinguished.

Mirabilis limosa, n. n.—*M. glutinosa* A. Nels., Proc. Biol. Soc. Wash. 17:92. 1904; not *M. glutinosa* Kuntze, Rev. Gen. 3²:265. 1898, the latter a Bolivian plant; *Hesperonia glutinosa* (A. Nels.) Standley, Contrib. U. S. Nat. Herb. 12:365. 1909.

Lesquerella tenella, n. sp.—A delicately slender erect annual, 2-4^{dm} high, beginning to blossom when very small; uniformly but not densely stellate pubescent throughout: stems one or more from the summit of the slender tap root, unbranched: leaves rather distant, narrowly oblanceolate to linear, 1-4^{cm} long, usually tapering to a slender petiole: petals broadly spatulate, very obtuse or slightly retuse, about 8^{mm} long, twice as long as the lanceolate sepals: pod globose, not stipitate, about 5^{mm} long; the style about 3^{mm} long; the pedicel 10-15^{mm} long and variously curved and spreading or even reflexed.

Moapa, Nevada, April 8, 1905, *Goodding* 2184.

This species belongs in the section having immarginate seeds and with the annual species having globose pods; however, it has no known near relative.

Linum leptopoda, n. sp.—Having the appearance of a perennial but possibly only biennial, wholly glabrous, 3^{dm} or more high: root stout, with white furrowed bark, the caudex-like branched crown bearing several to many slender erect terete stems dividing into filiform branchlets above: leaves crowded below; those of the crowns scale-like, very short, 2-4^{mm} long and half as broad, leaving a crestlike scale when falling away; lower stem-leaves 5-12^{mm} long and 1-3^{mm} wide, becoming narrower, more distant, and finally bractlike above; stipular glands wanting: pedicels slender, 5-25^{mm} long: sepals about 5^{mm} long, green or brownish red, lanceolate, 1-nerved, with a few obscure glands on the margins as have also the bracts: petals a clear yellow, 7-9^{mm} long, broadly obovate or suborbicular, with obscurely crenate summit: stamens as long as the united part of the styles; the anthers large, as long as the filaments: styles united a little more than half their length: capsule about as long as the sepals, the false septum incomplete.

Las Vegas, Nevada, on stony slopes, May 4, 1905, *Goodding* 2276.

Except for the yellow flowers, this suggests at first glance *Linum Lewisii* rather than any of the yellow-flowered species.

Mortonia utahensis, n. sp.—*M. scabrella utahensis* Coville, ex. Wm. Trelease, Syn. Fl. N. A. 1:400. 1897.

Specimens in full bloom, April 19, no. 2230, in the Muddy Range; fruiting specimens May 13, no. 2369, Las Vegas Mts., both localities in southern Nevada.

The excellent collections of this plant by Mr. GOODDING in 1905 leave no doubt that it ought to be considered distinct from *M. scabrella* Gray. Not only are the leaves uniformly much larger, but the flowers are very numerous and much smaller. The calyx-lobes equal and in fruit rather exceed the turbinate tube; they are broadly triangular, with erose scarious margins. The petals are nearly oval, with erose denticulate margins, and are narrowed abruptly to a short claw-like base; they barely equal the calyx-lobes and are never more than 3^{mm} long. The filaments are dilated downward. The leaves do not have revolute margins but are fleshy-thickened, looking as if bordered with cartilage.

Condalia divaricata, n. sp.—An intricately branched rigid shrub, 2-4^m high; the branchlets crowded, 3-7^{cm} long, strongly divaricate (at right angles to the stem), rigid, permanently covered with a fine close tomentum which at tip shades off to flaky deciduous scales, leaving the sharp brown spine free: leaves in approximate alternate fascicles, mostly on the spinelike branchlets, nearly sessile, somewhat thick and coriaceous, the margin wholly entire, permanently lanate-pubescent, oblong to oval, or sometimes narrowed toward the very short petiole, mostly obtuse at apex, the venation obscure, rarely more than the midrib showing, 4-8^{mm} long: flowers not known: mature fruit on very short peduncle and pedicels (each less than 2^{mm} long), the umbel apparently 3-flowered at most: drupe ellipsoidal, purplish black, 5-7^{mm} long (in dry specimens), the stone moderately thick-walled, completely 2-celled, with a large elliptical plano-convex seed in each cell.

Las Vegas, Nevada, in mature fruit, May 5, 1905, Goodding 2300.

The only species to which this is closely allied is *C. lycioides* Weberbauer, but that is a Texan species with narrower thin pale leaves conspicuously veined, and with subglobose fruit. The var. *canescens* of this species, at least as originally described (GRAY, Wheeler Rept. 6:82), is a shrub only half as large, with greenish branches covered with a "gray powdery substance," leaves on petioles 4-8^{mm} long, and the spiny branchlets only 12-25^{mm} long. Though no specimens of the variety are at hand, it seems highly improbable that it is the same as the one now described. Should such prove to be true, it certainly deserves to be separated from *C. lycioides*, as is now done.

Mentzelia polita, n. sp.—Perennial, but probably short-lived:

root semi-woody, with a branched crown: stems 2 to several from the crowns, rather slender, erect, 2-4^{dm} high, somewhat cymosely branched at summit, glabrous, polished ivory white: leaves all entire; the lower narrowly spatulate-ob lanceolate, sometimes abruptly acute, all but the lowest sessile; from the middle up linear, and the uppermost broadest at the base; all obscurely papillose, with a minute seta from the center of the papilla, and closely covered with microscopic pointlike hairs barbed at the summit: calyx-tube short-turbinate, about 5^{mm} long: petals white, spatulate, 10^{mm} long: stamens numerous, a few of the outer filaments dilated-petaloid but all fertile, shorter than the petals: style stout, not cleft at apex: capsule globose, crowned by the divaricate and now somewhat subulate calyx-lobes.

Las Vegas, Nevada, from washes in the hillsides, May 4, 1905, *Goodding* 2273.

Mentzelia synandra, n. sp.—Harsh and hispid throughout, duration not known (roots wanting in type collection): stems apparently several from the base, somewhat branched, 3-4^{dm} high, with long whitish aciculae and the short barbed pubescence of this genus: leaves mostly broadly elliptic-ovate, somewhat irregularly dentate, 3-6^{cm} or more long, the petioles usually much shorter; the upper surface bearing long aciculae with pustulate bases, and the lower long barbed hairs, both kinds mingling on the petioles and inflorescence: calyx-tube 10-14^{mm} long, somewhat exceeded by the linear-lanceolate lobes: petals 5, yellow, obovate-spatulate, abruptly acute, 3-4^{cm} long: stamens very numerous, all similar but the inner successively shorter; anthers oblong-oval; the filaments filamentous, not longer than the calyx-lobes, all connate at base, forming a firm thick-walled ring to which the petals cohere by their bases, the whole deciduous together from the firm rim of the calyx-tube: style stout, the 3-5 stigmas more or less convolute: fruit unknown.

Las Vegas Mountains, southern Nevada, May 13, 1905, *Goodding* 2373.

A very remarkable species, simulating the arrangement of petals and stamens in the Malvaceae.

Chylisma hirta, n. sp.—A coarse biennial, 3-5^{dm} high, branching from the lower part of the stem or from the crown, densely white-hirsute on the stems, less coarsely so on the leaves and sparsely on the pods: leaves mostly basal (the crown-leaves wanting in the type),

very variable, 5-10^{cm} long or more, somewhat lyrate; the terminal lobe large, elliptic-ovate, irregularly crenate-dentate or entire; the lateral lobes irregular, small, few to many or even wanting: flowers large, crowded but ultimately evolving an elongated large-fruited raceme: calyx-tube turbinate, 4-5^{mm} long; its lanceolate lobes twice as long, with a short hornlike appendage near the tip: petals yellow, obovate-orbicular, about 15^{mm} long: stamens about equal; filament and anther each about 5^{mm} long: style shorter than the petals: capsules 5-6^{cm} long and 2-3^{mm} broad, on pedicels 5-15^{mm} long: seeds numerous, somewhat ovoid but irregular and angled through pressure, 2-3^{mm} long.

Tuly's Ranch, thirteen miles from Las Vegas, Nevada, in stony washes, May 1, 1905, *Goodding* 2348.

Lavauxia lobata, n. sp.—Biennial or possibly more enduring, the rather thick root with an enlarged more or less branched crown: stemless or more usually caulescent, softly and conspicuously hirsute throughout: leaves crowded on the crowns and short stems, 1-2^{dm} long; narrowly oblanceolate in outline, irregularly and deeply pinnately lobed; the lobes mostly oblong, obtuse or subacute, 5-18^{mm} long: calyx-tube 7-9^{cm} long; its lobes ovate-lanceolate and about 25^{mm} long: corolla yellow, changing to red with age; the petals as long as the calyx-lobes and a third broader than long: style as long as the petals, with long-linear stigmas: capsule linear-lanceolate, sharply angled but not winged, tapering very gradually from the base, 4-6^{cm} long, 4-6^{mm} broad: seeds 2-3^{mm} long, with conspicuous tubercle.

Meadow Valley Wash, Nevada, in sandy washes, April 7, 1905, *Goodding* 37 and 47 (type).

This fine species might readily be mistaken for a yellow-flowered *Pachylophus*, did it not have the angled capsule and tubercled seeds of *Lavauxia*.

Pachylophus cylindrocarpus, n. sp.—Biennial, stemless or more often developing a stoutish stem 1-2^{dm} high: leaves narrowly oblong-lanceolate, nearly entire to irregularly and lacerately dentate, almost glabrous on the faces but with a white fringe of soft hair on the margins; blade 5-15^{cm} long, on petioles as long or longer: calyx (including ovary) softly white-hirsute; its lobes linear-lanceolate, nearly 3^{cm} long: petals broadly cuneate-obcordate, with deep sinus, equaling

or exceeding the calyx-lobes: capsule nearly glabrous, narrowly cylindrical-oblong, 4-6^{cm} long, on a pedicel about 1^{cm} long; a double row of small sharp crests on each obtuse angle: seeds light brown, 2-3^{mm} long, obscurely bidentate at apex, the raphal furrow conspicuous.

Carson's, Meadow Valley Wash, southern Nevada, May 26, 1902, *Goodding* 960a.

Quincula lepidota, n. sp.—Very pale as if canescent, but without pubescence except minute white pustular scales which are very numerous on calyx, pedicels, and petioles, and occur sparingly on the veins: perennial from rather thick rootstocks, the stoutish stems arising at intervals either singly or in clusters: stems erect, short (probably not much exceeding 1^{dm} in length even at maturity): leaf blades fleshy, mostly oval, from entire to undulate crenate, 12-25^{mm} long, the narrowly margined petiole usually longer: pedicels slender, 10-25^{mm} long: calyx-lobes triangular, shorter than the 2-3^{mm} long tube: corolla 12-14^{mm} long and broad, campanulate-funnelform, purple, with an orange-yellow band running from the middle of each lobe toward the base of the tube, where there is a crown of 5 woolly crests, the 5 slender filaments alternating with the crests: style longer than the filaments but shorter than the corolla; ovary glabrous: fruiting calyx and berry not known.

Dry Lake, Nevada, in the gumbo soil of a dry lake bed, April 17, 1905, *Goodding* 2232.

The appearance of this species is so different from that of *Q. lobata*, the only other species of the genus, that were it not for the character of the pubescence and the crown in the base of the corolla one would refer it, in the absence of fruit, to *Chamaesaracha* rather than to *Quincula*.

Physalis genucaulis, n. sp.—Perennial from a stout woody tap root, 1^{dm} or more long; densely but minutely pruinose or viscid puberulent throughout, and with no long hairs: stems several, each more or less branched; the branches with short zigzag internodes, 2-3^{dm} high: leaves ovate to ovate-triangular, the base varying from abruptly cuneate to cordate, 1-3^{cm} long: calyx campanulate, about 5^{mm} long, the triangular lobes about half as long as the tube: corolla greenish yellow, without conspicuous spots, campanulate-funnelform, about 10^{mm} long: style shorter than the corolla and just surpassing

the oblong anthers: fruiting calyx equally but not conspicuously 10-angled, noticeably reticulate-veined, ovoid, with sunken base and connivent lobes closing the orifice.

Mesquite Well, southern Nevada, May 1, 1905, *Goodding* 2247.

One might think of referring this to *P. crassifolia* Benth. were it not for character of the fruiting calyx, or to *P. muriculata* Greene, if dealing with the vegetative characters alone.

AMPHIACHYRIS FREMONTII spinosa, n. var.—Intricately and divaricately branched, many of the branches naked and slenderly spinose, floriferous twigs not surpassing the foliar ones; scabro-puberulent on foliage and young twigs: leaves oblong to elliptic, acute at both ends, 5-12^{mm} long: heads congested-globose: ray sharply 3-toothed.

Moapa, Nevada, April 8, 1905, *Goodding* 2199.

HYMENOCLEA FASCICULATA A. Nels., BOT. GAZETTE 37:270. 1904.

MR. GOODDING again secured this species, this time at Cane Springs, Meadow Valley Wash, Nevada. These specimens are in perfect accord with the type collection, no. 662, Kerman, Nevada.

HYMENOCLEA FASCICULATA patula, n. var.—Slender stems (7-10^{dm} long) widely procumbent or drooping; branchlets assurgent from the stems upon which they are uniformly placed, and not fasciculately clustered at the ends; the very short floriferous twigs similarly distributed upon the branches, and the little glomerules of 3-5 heads (staminate and pistillate) open racemosely or almost spicately arranged upon the branches: involucral bracts of the staminate heads nearly entire; those of the pistillate heads very broadly reniform.

Moapa, Nevada, April 8, 1905, *Goodding* 2178.

BAILEYA PLENIRADIATA perennis, n. var.—Stems numerous, crowded in a dense cluster on the crown of a large indurated root, 3-5^{dm} high, leafy almost to the summit.

Moapa, Nevada, April 8, 1905, *Goodding* 2176.

Typical *B. pleniradiata* is an annual. This perennial form is more robust, and has a larger number of bracts (about 40) in the involucre and more disk-flowers (60-75). As pointed out by HALL (Comp. S. Calif. 164), the original *B. multiradiata* Harv. & Gray (Emory Report 144) is not the *B. multiradiata* Gray of Syn. Fl. 1:318, but is the var. *nudicaulis* of that work.

Gaillardia pedunculata, n. sp.—Winter annual or biennial, 2-4^{dm} high: stems few to several from the crown of the slender tap root, leafy on the lower one-fourth only, the rest being the slender monocephalous peduncle, softly cinerous-hirsute: leaves irregularly pinnatifid to entire, oblanceolate to linear, 2-6^{cm} long, more or less petioled, slightly viscidly pubescent especially when young: involucral bracts in about 2 rows, moderately whitened with flat woolly hairs, shorter than the disk which is 12-14^{mm} wide and high: rays 2^{cm} or less long, clear yellow, minutely pubescent on the outside, cleft one-third their length into lanceolate lobes, tapering cuneately from summit to the short very slender tube: disk-flowers also yellow; limb tubular, densely and minutely pubescent with beaded hairs: pappus of very thin paleae about as long as the inordinately pubescent achene, much shorter than the disk corollas, narrowly to broadly elliptic, mostly obtuse, and without costa or awn: fimbriae of the receptacle nearly obsolete, consisting of a few short slender teeth.

Moapa, Nevada, April 8, 1905, *Goodding* 2177.

This seems to have no near relative among described species.

Enceliopsis, nov. gen.—*Enceliopsis* Gray, Proc. Am. Acad. 19:9. 1883, and Syn. Fl. 1:283. 1894, as Section I of *Helianthella*.—Xerophytic plants, perennial from an indurated branching caudex, the crowns of which bear the rather thick simple leaves and the single long pedunculate monocephalous scape. Leaves canescent, and the petioles usually margined and longer than the blade. Heads large; the involucral bracts in 2 or 3 series. Bracts of the receptacle chaffy, hyaline, or scarious with greenish tip, and more or less conduplicate. Rays (rarely wanting) yellow, conspicuous, pubescent on the exterior, 20-40. Disk-flowers also yellow, with short narrow tube, abruptly expanded into the longer cylindrical throat. Achenes flat, oblong-cuneate, with narrow callous margins and the broadly retuse summit with a wider crownlike callus, from densely to thinly villous. Pappus of two subulate awns and in some species a narrow fringe of confluent squamellae between them; rarely even the awns wanting.—Plants peculiar to the "limestone clays" of the desert Southwest (southern Utah and Nevada, and adjacent Colorado, New Mexico, and Arizona).

The species for which this new genus is proposed were most of them described under *Encelia*, but have in more recent years been transferred to *Helianthella*, and sometimes back again. This of course indicates that they do not conform to either genus, and since the five species constitute a very homogenous and characteristic group it seems far better to give them generic rank. *E. nudicaulis*, though not the oldest of the species, was the first to be correctly and completely delineated, and may be cited, therefore, as the type of the genus. Mr. MARCUS E. JONES has well called attention to the fact that these are singularly out of place in *Helianthella* so far as habitat is concerned. The true species of that genus belong in the mountains, mostly in cold moist situations in high altitudes; while *Enceliopsis* occurs only in absolutely the hottest, driest area to be found on this continent.

Enceliopsis nudicaulis, n. comb.—*Encelia* (§ GERAEA) *nudicaulis* Gray, Proc. Am. Acad. 8:656. 1873; *Helianthella nudicaulis* Gray, Proc. Am. Acad. 19:9. 1883; *Encelia nudicaulis* Jones, Proc. Calif. Acad. Sci. II. 5:701. 1895.

Enceliopsis argophylla, n. comb.—*Tithonia argophylla* Wats., Bot. King's Rep. 5:423. 1871; *E. argophylla* and *H. argophylla* Gray, in turn, as above; not *H. argophylla* Coville, Contrib. U. S. Nat. Herb. 4:132. 1893; *E. argophylla* Jones, l. c. 702.

Enceliopsis grandiflora, n. comb.—*H. argophylla* Coville, Contrib. U. S. Nat. Herb. 4:132. 1893; *E. grandiflora* Jones, l. c. 702; *H. Covillei* A. Nels., Bot. GAZETTE 37:273. 1904.

Enceliopsis nutans, n. comb.—*E. nutans* Eastwood, Zoe 2:230. 1891; *Verbesina scaposa* Jones, Zoe 2:248. 1901.

Enceliopsis tuta, n. sp.—The large woody root crowned with a widely and freely branching caudex; the branches thick, 2–10^{cm} long, protected from desiccation by a thick felted sheath of white wool: leaves all on the crowns, densely and minutely appressed-cinerous or silvery white, rather small, 15–25^{mm} long, narrowly to broadly elliptic-ovate, mostly cuneately subacute at both ends; the barely margined petiole usually much longer than the blade: scape rather slender, 15–30^{cm} long: involucre hemispherical, 20–25^{mm} broad, its pubescence similar to that of the leaves but longer; involucral bracts in about 2 series, narrowly lanceolate, the outer 9–11^{mm} long, the inner a little longer: rays puberulent, as in the other species, 20–25^{mm} long, linear, entire or 2–3-toothed at the slightly broadened apex: chaffy bracts of the receptacle equaling the disk-flowers: achenes softly hoary-villous, the dark body (when wet) in fine contrast

to the white margin and crown, about 1^{cm} long, the slender incurved awns fully one-third as long and wholly free from and surpassing the hair on the achene: glandular waxlike particles occur abundantly on the flowers and free tip of the chaff.

Las Vegas, Nevada, May 4, 1905, *Goodding* 2271.

Chaenactis paleolifera, n. sp.—Biennial or possibly perennial: the tap root with an enlarged indurated crown bearing few to several freely branched stems, 1.5-3^{dm} high: leaves numerous, pinnately parted into few to several mostly short linear entire segments, canescently tomentulose as are also the stems and involucres: heads numerous, terminating the branchlets, naked pedunculate, 12-15^{mm} high and broad, 40-60-flowered: involucral bracts linear-lanceolate, slightly acuminate: receptacle convex, with numerous (as many as the flowers?) paleae; these linear, clavellate-acuminate above, and minutely glandular-pubescent, as are also the corollas, which exceed the paleae but little: corollas ochroleucous, essentially alike; their tubes a little shorter than the slightly enlarged throat: stamens included: stigmas exserted: pappus paleae 4, usually lance-acuminate and as long as the corolla-tube, sometimes shorter and obtuse, or slightly lacerate: achenes linear, slightly enlarged upward, and nearly terete, softly pubescent.

Tuly's ranch, 13 miles north of Las Vegas, Nevada, May 10, 1905, *Goodding* 2344.

Only two other species are accredited with paleae, *C. carpochnia* and *C. attenuata* Gray, with 10 and 5 paleae respectively. These, apart from the differences in the number of paleae, cannot be confused with the species here proposed.

LEBETINA Cass. in Dict. Sc. Nat. 25:394. 1822.—Among the several names to which the following species have been referred, Lebetina seems to be the earliest and the only one proposed especially for any of them. *Dysodia*, as at present constituted, includes most diverse things, and in the section EUDYSODIA extreme incongruity seems to have been reached (see GRAY, Proc. Am. Acad. 19:37. 1883; HOFFMANN, ENGLER & PRANTL, Pflanzenfam. 4^s:266. 1890). HOFFMANN assigns the first of the following to a section by itself, but had he added the other species the section would still have been fairly homogeneous and would have relieved the section EUDYSODIA. To think of *Dysodia papposa* and *D. Cooperi* Gray as congeneric stretches one's

scientific imagination too far; therefore, I suggest the recognition of the genus *Lebetina*, with at least the species named below. These species in habit and habitat and in most essentials of structure are in close accord, the first being exceptional in having an extra series of paleae, and the first and second in that the style appendages are abruptly instead of gradually acuminate. The characters of the genus can be obtained from the description of the section *EUDYSODIA* and its subdivisions, as cited above, and in *Syn. Fl.* 1:356. 1884.

Rather than leave these species in *Dysodia*, it were better to transfer them to *Porophyllum* Vaill, or to *Nicolletia* Gray, in either of which less violence would be done so far as appearance gives any clue to general conformity.

LEBETINA CANCELLATA Cass.—*Dysodia cancellata* Gray, *l. c.*; and Hoffmann, *l. c.*

Lebetina porophylla, n. comb.—*D. porophylla* Cav., *Anal. Cienc.* 4:334; D.C. *Prodr.* 5:639; not *D. porophylla* Willd., *Enum.* 900.

Lebetina speciosa, n. comb.—*D. speciosa* Gray, *Proc. Am. Acad.* 5:163. 1861.

Lebetina porophylloides, n. comb.—*D. porophylloides* Gray, *Mem. Am. Acad.* 5:322. 1855; and *Bot. Cal.* 1:397. 1886.

Lebetina Cooperi, n. comb.—*D. Cooperi* Gray, *Proc. Am. Acad.* 9:201. 1874; and *Bot. Cal.* 1:397. 1885.

The collection of this last species by Mr. GOODDING (no. 2246, Mesquite Well, Nevada) led to a study of this group, which has convinced me that *Dysodia* will receive further segregation, though it may at the same time be expanded in certain other directions. HOFFMANN has thus referred *Thymophylla* Lag. (*Hymenatherum* Cass.), and has found it necessary to change the generic description in no essential character. For that reason the following may be referred to *Dysodia*.

Dysodia cupulata, n. sp.—Herbaceous perennial, from slender woody roots; puberulent on stems and leaves; foliage and involucre more or less beset with small round oil-glands; branching below: stems slender, less than 1^{dm} high, very leafy; branchlets terminating in a filiform naked monocephalous peduncle 2-4^{cm} long: leaves opposite below, pinnately parted into 3-5 filiform acerose lobes 1-2^{cm} long: involucres broadly campanulate or cup-shaped, about 5^{mm} high and broad; bracts about 16, completely united, 1 or 2 minute free bracts at base: rays about 12; ligule elliptic-oblong,

2-3^{mm} long, fertile, yellow: disk-flowers also yellow, numerous, slightly exceeding the pappus, one sinus more deeply cleft than the others: pappus of 10 narrow paleae, united at base and in a single series, obscurely bidentate at apex, the mid-nerve continued from between the teeth as a minutely scabrous seta as long as the palea, the alternate paleae and setae shorter: achene linear subterete, obscurely ciliate-pubescent, 2-3^{mm} long, as long as the longer setae: stigmas obtuse.

Tuly's Ranch, Las Vegas, Nevada, May 10, 1905, *Goodding* 2343.

This is probably very near to *Hymenatherum Thurberi* Gray (Proc. Am. Acad. 19:41 and Syn. Fl. 1:358) and it may have to become *Dysodia Thurberi*. The description of that species is such as to make it difficult to settle the question positively in the absence of the type or of authentic material, but the geographical distribution makes their identity quite improbable.

Dysodia fusca, n. sp.—Pubescence minute, scurfy-glandular: plants low, 1-2^{dm} high, freely branched from a woody base; the ultimate branchlets very slender, fragile, white: leaves numerous, opposite, crowded (the internodes short), very narrowly linear, all or nearly all entire, mucronate, with few to several dark oval oil-glands: heads nearly sessile, campanulate-turbinate, 5-8^{mm} high: involucre cupulate, only the very short obtuse tips of the bracts free, with a few subulate accessory bracts at the base and with few to several oil glands: ligules oblong, 5-8, about 4^{mm} long: disk-flowers about as many, very narrow: anthers and stigmas included, the latter truncate, with an obscure apiculation: pappus paleae of both kinds of flowers wholly resolved into unequal scabrous capillary bristles as long as the disk corollas, fuscous and protruding brushlike from the involucre of mature heads: achenes linear, very finely striate, minutely pubescent, subterete, as long as the pappus: receptacle alveolate, naked, or with a few soft scattering hairs.

Muddy Range, southern Nevada, in a stony wash (three plants), April 10, 1905, *Goodding* 2214.

This seems to fall into GRAY's section *BOEBERA* (Syn. Fl. 1:356) and possibly may be allied to the two Mexican perennials mentioned. Those, however, have pedunculate heads and the leaves pinnately divided as is usual in the genus. Only the most liberal interpretation of the genus admits this species, and were it not for the gamophyllous involucre it were better to place it in *Pectis*, which it resembles in habit and in the opposite somewhat connate leaves.

PLANTAE MISCELLANAEAE

Euphorbia manca, n. sp.—Annual, the decumbent base giving rise to few to several simple, erect branches 1-2^{dm} high: leaves obovate-cuneate, broadly obtuse, numerous, the lower reduced: primary floral bracts ovate-reniform; the secondary broadly reniform, sometimes connate: inflorescence once or twice trichotomous: capsule about 4^{mm} long: seeds short cylindrical-oblong, gray but not ashy, nearly smooth.

Mancos, Colorado, June 23, 1898, *Baker, Earle, and Tracy* 23.

This has been referred to *E. crenulata* Engelm. by NORTON in Rep. Mo. Bot. Gard. 10:36. 1899. That species, as there constituted, however, is clearly an aggregate, both annuals and perennials being included even when of very diverse habits. The segregates readily discriminated seem to be as follows:

Perennial with branched stems from horizontal or ascending rootstocks; leaves crenulate; seeds with deep dark-colored pits.

1. *E. Nortoniana*

Annuals:

Stems branched above; leaves crenulate; seeds ash-colored with irregular vermiculate ridges and broad shallow pits.

2. *E. crenulata*

Stem branched from the decumbent base; leaves entire; seeds greenish gray, nearly smooth.

3. *E. manca*

E. crenulata is characterized adequately in the original description in Bot. Mex. Bound. 192; as well as in Wats. Fl. Cal. 2:75 (as *E. leptocera*, an undoubted synonym); and in Greene, Man. Bay Region 80.

Euphorbia Nortoniana, n. sp.—*E. crenulata* of Norton in Rept. Mo. Bot. Gard. 10:36. 1899, as to the perennial plant, from which the description is chiefly drawn.

Apparently common in California, the type selected being Heller 6625 (San Francisco, April 25, 1903) and 6486 (Pacific Grove, March 30, 1903).

In his key to the species of *Euphorbia*, NORTON provides for both the annual and the perennial plants (*l. c. 8*); and a very different plant from the above served for the figure on his *pl. 36*.

Gaurella canescens (Torr. and Frem.), n. comb.—*Oenothera canescens* Torr. and Frem., Fremont's Rep. 315. 1845; *Gaurella guttulata* (Geyer) Small, Bull. Torr. Bot. Club 23:183. 1896.